

CLAIMS:

1) Pollutant neutralising system contained in gases emitted in particular by internal combustion engines including a pyrolytic heat cell arranged to retain and destroy pollutants, through means presenting a very large exchange area at the temperature of pyrolysis with the said pollutants; characterised in that the means of neutralising by pyrolysis presenting a very large exchange area with the said pollutants, consists of an assembly of spheres each containing, over its entire surface, numerous excrescences (1, 2, 3) for example of diamond point or similar type.

2) Pollutant neutralising system in accordance with claim 1, characterised in that the spheres all containing, over their entire surface, numerous excrescences of diamond point or similar type, are machined from rock of any kind whatever.

3) Pollutant neutralising system in accordance with claims 1 and 2, characterised in that the spheres each containing, over their entire surface, numerous excrescences of diamond point or similar type, are machined from limestone rock.

4) Pollutant neutralising system in accordance with claim 1, characterised in that the spheres all containing, over their entire surface, numerous excrescences of diamond point or similar type, are moulded from limestone mineral powder.

5) Pollutant neutralising system in accordance with claim 1, characterised in that the spheres all containing, over their entire surface, numerous excrescences, for example of diamond point or similar type, are stamped as halves (6, 7) from a sheet of metal 0.4 mm thick and then welded together.

6) Pollutant neutralising system characterised in that the pyrolytic heat cell for neutralising pollutants, contains means with a large exchange area with the said polluting gases, these means consist of a set of interchangeable electric heaters (32) wound on themselves as flat spirals and stacked in an insulated chamber (30).

7) Pollutant neutralising system in accordance with claims 1 and 5, characterised in that the exchange and pyrolysis surface of the pyrolytic heat cell (38) consists of an assembly of hollow metal spheres (7) furnished with excrescences (1, 2 or 3) filling its chamber (39).

8) Pollutant neutralising system in accordance with claims 1 to 4, characterised in that the means presenting the exchange and pyrolysis surface of the heat cell (44) consists of a set of mineral spheres furnished with excrescences (1, 2 or 3), enclosed in a stainless steel net (47) and put into the heat cell's chamber (45) after the insertion of flat rings (50, 51) intended to fragment by impact large unburnt or partially burnt particles or HC, consisting of a mesh of stainless steel swarf, preferably arranged ahead of the pyrolysis spheres.

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SUMMARY

The invention concerns a system for neutralising polluting gases contained in particular in the exhaust gases of petrol or diesel internal combustion engines, or industrial smoke. It consists of modules assembled together or integrated, chosen in accordance with the quantity of pollutant gases and their nature, from among some or all of the following modules: hollow metal or mineral sphere-type pyrolysis heat cell module (70), containing excrescences forming a very large exchange area with polluting gases, or electric heaters; particle and HC filter and polluting gas purification module (71), sound damping and gas temperature reduction module (73).

Summary drawing figure 19.